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Comparing pain relief methods for keyhole bowel surgery: A study on two types of nerve blocks

Submission date
18/11/2024

Recruitment status
No longer recruiting

Registration date
25/11/2024

Overall study status
Completed

Last Edited
23/09/2025

Condition category
Surgery

[ ] Prospectively registered
[ ] Protocol
[ ] Statistical analysis plan
[ ] Results
[ ] Individual participant data
[ ] Record updated in last year

Plain English summary of protocol

Background and study aims
This study aims to compare two pain relief methods used after keyhole bowel surgery. The goal is to find the most effective way to reduce pain and minimize the need for morphine, which can have side effects. The two methods being compared are the quadratus lumborum (QL) block and the transversus abdominis plane (TAP) block.

Who can participate?
Patients who are undergoing laparoscopic (keyhole) colorectal surgery can participate in this study.

What does the study involve?
Participants will be randomly assigned to one of two groups: one group will receive the QL block, and the other will receive the TAP block. Both groups will receive general anesthesia during surgery. After the surgery, participants will receive one of the two pain relief methods. All participants will also receive standard pain relief medications, including paracetamol, nefopam, and patient-controlled analgesia (PCA).

What are the possible benefits and risks of participating?
Participants may benefit from effective pain relief from one of the two methods. Both methods have been shown to reduce pain after laparoscopic colorectal surgery. There is a very small risk of complications related to anesthesia, but these are rare and will be closely monitored by medical staff.

Where is the study run from?
Binh Dan Hospital (Viet Nam)

When is the study starting and how long is it expected to run for?
July 2024 to October 2025

Who is funding the study?
University of Medicine and Pharmacy at Ho Chi Minh City Medicine and Pharmacy University (Viet Nam)

Who is the main contact?
Mr Van Phuoc Toan, dr.toanvan@gmail.com

Contact information

Type(s)
Public, Scientific, Principal investigator

Contact name
Mr Phuoc Toan Van

ORCID ID
https://orcid.org/0009-0009-6233-0826

Contact details
371 Dien Bien Phu - Ward 4 - District 3
Ho Chi Minh
Viet Nam
700000
+84 902993591
dr.toanvan@gmail.com

Additional identifiers

Study information

Scientific Title
Comparison of analgesic efficacy between quadratus lumborum block and transversus abdominal plane block in laparoscopic colorectal surgery

Study objectives
Quadratus lumborum anesthesia reduces morphine consumption 48 hours postoperatively by 50% compared with transverse abdominal plane anesthesia in laparoscopic colorectal surgery

Ethics approval required
Ethics approval required

Ethics approval(s)
Approved 22/10/2024, Ethics council in biomedical research, University of Medicine and Pharmacy at Ho Chi Minh city (217 Hong Bang, Cho Lon Ward, District 5, Hochiminh city, 700000, Viet Nam; +84 28 3855 0507; hoidongdaoducdhyd@ump.edu.vn), ref: IRB-VN01002/IRB00010293/FWA00023448

Primary study design
Interventional

Study design
Randomized controlled trial

Study type(s)
Efficacy

Health condition(s) or problem(s) studied
Analgesic after laparoscopic colorectal surgery

Interventions
All patients recruited into the study will be randomized into 2 groups: GL group (quadra lumbar muscle block group) and TAP group (transversus abdominis plane block group) by creating a block random number table in Excel software 2016 (copyrighted by the Department of Public Health - Ho Chi Minh City University of Medicine and Pharmacy). Choosing the RAND function with the sort A->Z command will give you similar random numbers corresponds to the serial number of the patients in the research sample. Choose an odd number QL group and even numbers for TAP group.
The patient is induced, intubated and maintained according to the protocol hospital. At the end of surgery: After the last stitch of skin is sutured, the patient is fine perform QL or TAP according to initial randomization.
Both methods are performed under ultrasound guidance. The anesthetic used is ropivacaine 0.25% 20ml for each side.
Post-operative analgesia includes: patient-controlled analgesia (PCA) with morphine, paracetamol 1gr per 8h, nefopam 20mg per 8h.

Intervention Type
Procedure/Surgery

Primary outcome(s)
Total dose of morphine-PCA 48 hours after surgery measured using patient records

Key secondary outcome(s)
Measured using patient records:
1. Total dose of morphine-PCA at postoperative time points (1 hour, 2 hours, 6 hours, 12 hours, 24 hours)
2. VAS pain scores at rest and movement at postoperative times (1 hour, 2 hours, 6 hours, 12 hours, 24 hours, 48 hours)
3. Postoperative nausea and vomiting (PONV)
4. Opioid sedation (POSS)
5. Abdominal skin sensory area after 1 hour of blockade.

Completion date
30/10/2025

Eligibility

Key inclusion criteria
Current inclusion criteria as of 23/09/2025:

1. The patient is indicated for elective laparoscopic colorectal surgery
2. Patients are 18 to 75 years old
3. Patients' health status is assessed according to the Society of Anesthesiology and Resuscitation United States (ASA) at level I-III

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Previous inclusion criteria:

1. The patient is indicated for elective laparoscopic colorectal surgery
2. Patients are 18 to 70 years old
3. Patients' health status is assessed according to the Society of Anesthesiology and Resuscitation United States (ASA) at level I-III

Participant type(s)
Resident

Healthy volunteers allowed
No

Age group
Adult

Lower age limit
18 Years

Upper age limit
75 Years

Sex
All

Total final enrolment
60

Key exclusion criteria
1. Patients addicted to opioid drugs
2. Do not understand the instructions for using the PCA device
3. History of chronic pain, anesthetic allergy
4. Obese patients have BMI over 30 kg/m²
5. The patient converted from laparoscopic surgery to open surgery

Date of first enrolment
11/11/2024

Date of final enrolment
30/06/2025

Locations

Countries of recruitment
Viet Nam

Study participating centre
Binh Dan Hospital, Hochiminh city
371 Dien Bien Phu - Ban Co Ward
Hochiminh city
Viet Nam
700000

Sponsor information

Organisation
Binh Dan Hospital

Funder(s)

Funder type
University/education

Funder Name
University of Medicine and Pharmacy at Ho Chi Minh City Medicine and Pharmacy University

Results and Publications

Individual participant data (IPD) sharing plan
The datasets generated during and/or analysed during the current study are available from the corresponding author on reasonable request
hoinghibvbd@gmail.com
dr.toanvan@gmail.com

IPD sharing plan summary
Stored in non-publicly available repository

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Participant information sheet			23/09/2025	No	Yes